

REMARKS

Claims 1 and 17 are amended. Claims 1-18, as amended, remain in the application. Claims 13 and 14 are withdrawn as being drawn to a nonelected species.

The Rejections:

In the Office Action dated November 14, 2006, the Examiner rejected Claims 1-3, 5-8, 12 and 15 under 35 U.S.C. 102(b) as being anticipated by Fromberg (5,224,570).

Regarding Claims 1-3, the Examiner stated that Fromberg discloses a safety device comprising: retaining element (3); an abutment (7) spaced from and fixed relative to said retaining element; a braking element (11) movably positioned between said retaining element and said abutment and spaced a distance from said retaining element to accept a portion (4) of a guide rail (5); said braking element having a rest position spaced from the surface of said guide rail; a lever mechanism (20, 1, Fig. 1) connected to said braking element for moving said braking element from said rest position to a braking readiness position contacting the surface of said guide rail (at surface 13), whereby downward movement of movement of the elevator causes said braking element to be squeezed between the guide surface and said abutment; an operating mechanism (Col. 4, Line 59 and Col. 5, Line 13) connected to said lever mechanism for selectively moving said braking element between said rest and readiness positions (Col. 5, Line 5); said braking element is a blocking roller; said abutment is angled relative to said retaining element whereby an interspace (2) narrows between said retaining element and said abutment opposite a predetermined direction of motion of the elevator car.

Regarding Claims 5-8, the Examiner stated that Fromberg discloses a safety device comprising: a guide (9) along which the position of said braking element is changeable; said guide forms an oblong recess; said guide is shaped to hold said braking element in said rest position; said operating mechanism which applies a force to his braking element for bringing said braking element into contact with said guide surface and keeping said braking element in a state of equilibrium whereby said braking element is moved automatically relative to said abutment and opposite to the direction of motion of the elevator car.

Regarding Claim 12, the Examiner stated that Fromberg discloses his guide surface (one side of portion 4) is one guide surface of his guide rail (5) and said retaining element (3) is a first guiding element for guiding the elevator car alongside another guide surface (opposite side of portion 4) of the guide rail.

Regarding Claim 15, the Examiner stated that Fromberg discloses safety device having a U-shaped configuration.

The Examiner rejected Claims 4, 9-11 and 16-18 under 35 U.S.C. 103(b) as being unpatentable in view of Fromberg over Rebillard et al (US 6,173,813).

Regarding Claim 4, the Examiner commented that Fromberg does not disclose his lever mechanism swiveling about an axle, his lever mechanism being ultimately linked to a non-depicted governor or speed limiter (Col. 4, Line 59). According to the Examiner, Rebillard teach their lever mechanism (94) connected to their braking element (96) of roller form, whereby their lever mechanism swivels around an axle (100) in response to an electromechanical actuator in lieu of the non-depicted mechanical means of Fromberg, and it would have been obvious to one of ordinary skill in the art to modify the invention of Fromberg with the teaching of Rebillard to provide electromechanical actuation of the braking means for the benefit of integrating an emergency brake in a electronic control systems whereby sensors and/or set parameters can affect braking.

Regarding Claims 9-11, the Examiner stated that Fromberg discloses his operating mechanism as a mechanical device. According to the Examiner, Rebillard teach their operating mechanism having a solenoid (20) that "...exerts magnetic force... on said braking linkage..." (Col. 1, Line 58) whereby said braking element is maintained in said rest position, furthermore, if the solenoid is deactivated, thereby extinguishing the electromagnetic force, their bolt (86) to which their lever mechanism (94) is pivotally connected, is forced by their pre-loaded spring (88) to move their braking element to a brake readiness position, whereby the braking element automatically proceeds to a full braking position in response to the opposite motion of their elevator car and the fixed position of their inclined abutment, and it would have been obvious to one of ordinary skill in the art to modify the invention of Fromberg with the teaching of Rebillard to provide a fail-safe mode in keeping with conventional, electromechanical control means.

Regarding Claim 16, the Examiner commented that Applicant has stated that the brake lining of the instant invention is well known to the automotive industry (Para. 54). Therefore, according to the Examiner, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize materials common to automotive brake linings.

Regarding Claims 17 and 18, the Examiner stated that Fromberg discloses: first leg and second legs (1 a and 9), said first leg having a brake lining (3) attached thereto and said second leg spaced from and fixed relative to said first leg; a blocking roller (11) movably positioned between said first leg and said second leg and spaced a distance from said first leg to accept a portion of a guide rail therebetween; said blocking roller having a brake rest position; a lever mechanism (20, 1, Fig. 1) connected to said braking element for moving said braking element from said rest position to a braking readiness position contacting the surface of said guide rail (at surface 13), whereby downward movement of movement of the elevator causes said braking element to be squeezed between the guide surface and said second leg; an operating mechanism connected to said lever mechanism for moving said blocking roller between said rest and braking readiness positions; however, the operating mechanism does not move the braking element selectively. According to the Examiner, Rebillard teach their operating mechanism (bounded by 71, Fig. 5) for movement of their braking element from the brake rest to readiness positions, in automatic response to either an over-speed or similar condition as well as by selective control, and it would have been obvious to one of ordinary skill in the art to modify the invention of Fromberg with the teaching of Rebillard to provide an operating mechanism providing either automatic or selective engagement of the braking element, for safety and maintenance purposes.

Regarding Claim 18, the Examiner stated that Fromberg discloses said first and second leg are formed as legs of a U-shaped safety device block (Fig. 2) and an interspace (2) narrows between said second leg and said guide surface opposite the direction of motion of the elevator car.

The Response:

Applicants amended Claim 1 to recite "an operating mechanism connected to said lever mechanism for selectively moving said braking element between said rest position and said braking readiness position when the elevator car is in an operating state below over-speed."

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Applicants amended Claim 17 to recite "an operating mechanism connected to said lever mechanism for selectively moving said blocking roller between said rest position and said braking readiness position when the elevator car is in an operating state below over-speed."

Fromberg shows a brake catching device for an elevator car and a counterweight that only operates when the elevator car is operating in an over-speed state. Similarly, Rebillard shows an electronic control for an elevator braking system that only operates when the elevator car is operating in an over-acceleration or an over-speed state. Fromberg and Rebillard, taken together or alone, do not show or suggest the claimed invention.

In view of the amendments to the claims and the above arguments, Applicants believe that the claims of record, including withdrawn Claims 13 and 14, now define patentable subject matter over the art of record. Accordingly, an early Notice of Allowance is respectfully requested.